

**What is claimed:**

1    1. A real time communication device for operation with a packet switched  
2 network interconnecting the real time communication device with a control unit and  
3 a plurality of remote real time communication devices, the real time communication  
4 device comprising:

5                 a network interface for communicating over the packet switched network;  
6                 means for establishing a logical channel to support a media session over the  
7 packet switched network with an endpoint, selected from the group of endpoints  
8 consisting of the control unit and a one of the plurality of remote real time  
9 communication devices, for the exchange of real time streaming media with the  
10 endpoint during a media session;

11                means for receiving microphone input and generating compressed digital  
12 audio frames representative thereof for transmission to the endpoint during the  
13 media session and for receiving compressed digital audio frames from the endpoint  
14 and driving a speaker to output audio in response thereto;

15                means for sending a multicast status message on the packet switched  
16 network addressed to a multicast group;

17                the multicast group comprising any of the remote real time  
18 communication devices that have joined the multicast group; and

19                the multicast status message announcing a state of the real time  
20 communication device, the state being a state selected from a group of states  
21 consisting of a first state wherein the real time communication device is  
22 participating in a media session and a second state wherein the real time  
23 communication device is not participating in a media session.

24

1    2. The real time communication device of claim 1:

2                 further comprising:

3                 means for obtaining a first IP multicast address of the multicast group;

4                 and

5                 wherein the means for sending a multicast status message comprises:

6                    sending the multicast message to the first IP multicast address; and  
7                    wherein the multicast message identifies the real time communication device  
8 and includes an indication of the state of the real time communication device.  
9

1     3.        The real time communication device of claim 1, further comprising:  
2                    a user interface that includes an indication of the state of each of the remote  
3                    real time communication devices;

4                    means for receiving a plurality of multicast status messages, each being sent  
5 by one of the remote real time communication devices, and each comprising  
6 identification of the remote real time communication device that sent the multicast  
7 status message and identifying the state of the remote real time communication  
8 device that sent the multicast status message;

9                    means for driving the indication to show the state of each remote real time  
10 communication device and updating the state of one of the remote real time  
11 communication devices in response to receiving a multicast status message sent  
12 by the one of the remote real time communication devices.

13

1     4.        The real time communication device of claim 3:

2                    further comprising:

3                    means for obtaining a first IP multicast address of the multicast group;  
4 and

5                    wherein the means for sending a multicast status message comprises:

6                    sending the multicast message to the first IP multicast address; and  
7                    wherein the multicast message identifying the real time communication  
8 device and includes an indication of the state of the real time communication  
9 device.

10

1     5.        The real time communication device of claim 4, wherein:

2                    the means for receiving the plurality of multicast status messages comprises  
3 receiving each of the multicast status messages on the first IP multicast address.

4

1   6.   The real time communication device of claim 5, wherein the means for  
2 sending a multicast status message comprises:

3               means for sending the multicast status message in response to a change in  
4 state of the real time communication device between the first state and the second  
5 state.

6

1   7.   The real time communication device of claim 5, wherein the means for  
2 sending a multicast status message comprises:

3               means for sending the multicast status message in response to passage of a  
4 time duration during following sending of a previous multicast status message.

5

1   8.   The real time communication device of claim 5, wherein the means for  
2 sending a multicast status message comprises:

3               means for sending the multicast status message in response to receiving a  
4 status refresh request on the first IP multicast address.

5

1   9.   A method of providing notice of a state change of a real time communication  
2 device operating in a packet switched network, the method comprising:

3               establishing a logical channel to support a media session over the packet  
4 switched network with an endpoint, the endpoint being an endpoint selected from  
5 the group of endpoints consisting of a control unit and one of a plurality of remote  
6 real time communication devices, for the exchange of real time streaming media  
7 with the endpoint during a media session;

8               receiving microphone input and generating compressed digital audio frames  
9 representative thereof for transmission to the endpoint during the media session;

10              receiving compressed digital audio frames from the endpoint and driving a  
11 speaker to output audio in response thereto during the media session;

12              sending a multicast status message on the packet switched network  
13 addressed to a multicast group;

14              the multicast group comprising any of the remote real time  
15 communication devices that have joined the multicast group; and

16                   the multicast status message announcing a state of the real time  
17 communication device, the state being a state selected from a group of states  
18 consisting of a first state wherein the real time communication device is  
19 participating in a media session and a second state wherein the real time  
20 communication device is not participating in a media session.

21

1   10.   The method of claim 9:  
2       further comprising:

3                   obtaining a first IP multicast address of the multicast group; and  
4       wherein the step of sending a multicast status message comprises:  
5                   sending the multicast message to the first IP multicast address; and  
6       wherein the multicast message identifies the real time communication device  
7       and includes an indication of the state of the real time communication device.

8

1   11.   The method of claim 9, further comprising:  
2       receiving a plurality of multicast status messages, each being sent by one of  
3       the remote real time communication devices, and each comprising identification of  
4       the remote real time communication device that sent the multicast status message  
5       and identifying the state of the remote real time communication device that sent the  
6       multicast status message;

7                   displaying, on a user interface, an indication of the state of each remote real  
8       time communication device and updating display of the indication of the state of  
9       one of the remote real time communication devices in response to receiving a  
10      multicast status message sent by the one of the remote real time communication  
11      devices.

12

1   12.   The method of claim 11:  
2       further comprising:  
3                   obtaining a first IP multicast address of the multicast group; and  
4       wherein the step of sending a multicast status message comprises:  
5                   sending the multicast message to the first IP multicast address; and

6           wherein the multicast message identifies the real time communication device  
7 and includes an indication of the state of the real time communication device.

8

1 13. The method of claim 12, wherein:

2           the step of receiving the plurality of multicast status messages comprises  
3 receiving each of the multicast status messages on the first IP multicast address.

4

1 14. The method of claim 13, wherein the step of sending a multicast status  
2 message comprises:

3           sending the multicast status message in response to a change in state of the  
4 real time communication device between the first state and the second state.

5

1 15. The method of claim 13, wherein the step of sending a multicast status  
2 message comprises:

3           sending the multicast status message in response to passage of a time  
4 duration during following sending of a previous multicast status message.

5

6

1 16. The method of claim 13, wherein the step sending a multicast status  
2 message comprises:

3           sending the multicast status message in response to receiving a status  
4 refresh request on the first IP multicast address.

5

6

7

8

9